

ABSTRACT OF THE DISCLOSURE

A SOLVENT-FREE TRANS-ACIDOLYSIS PROCESS FOR

5 PREPARING SURFACE-ACTIVE CARBOHYDRATE FATTY-ACID

ESTERS

The present invention relates to a low temperature, solvent-free trans-acidolysis process for preparing surface-active carbohydrate fatty-acid esters comprising the steps of:

- (e) reacting acylated carbohydrate with free fatty acid in the presence of acid catalyst, under reduced pressure, and without adding any solvent;
- (f) decolorizing and separating the reaction mixture obtained in step (a) into unreacted fatty acid layer and a carbohydrate fatty-ester layer;
- (g) precipitating out the unreacted acylated carbohydrate;
- (h) liberating the hydroxyl groups by partial hydrolysis in the presence of an acid catalyst;
- (i) removing the unreacted free fatty acids and unreacted carbohydrate esters of low molecular-weight carboxylic acids during purification, and recycling the removed unreacted free fatty acids and carbohydrate esters to the starting reactant mixture.